IV. MANAGEMENT GOALS AND ENVIRONMENTAL IMPACTS

This chapter of the management plan identifies the goals and specific actions intended to protect biological and cultural resources within HCWA while providing for wildlife-dependent public use. The goals in this chapter provide broad guidance for management and are accompanied by practical tasks directed towards implementation. While providing for wildlife-dependent public uses, the goals are based on an ecosystem-based approach to management, which is consistent with the goals of the South County MSCP. Further, South County MSCP guidelines have been incorporated into this LMP. It is important to note that implementation of many of the tasks identified depends on availability of the necessary staff and an adequate operations and management budget. Thus, additional resources may be required to accomplish the task identified in this chapter. Additional discussion on this constraint is provided below for each management topic addressed in this chapter.

This chapter is organized by the following elements, as defined below: biological, public use, cultural resources, facility maintenance, scientific research and biological monitoring, fire management, and management coordination. Each element includes an introduction and a discussion of related opportunities and constraints. Each goal for a particular element and related tasks are numbered for cross-referencing within this chapter and Chapter V. Finally, the management described in this chapter was evaluated for its potential impact on the environment pursuant to CEQA. An Initial Study was prepared in accordance with CEQA Guidelines and submitted to the State Clearinghouse. The Department's Notice of Determination has also been filed with the State Clearinghouse. For each element in this chapter a general discussion of potential impacts is included after the discussion of element-specific goals and tasks.

A. DEFINITIONS OF TERMS USED IN THIS PLAN

This LMP has been developed in accordance with the Department's *A Guide and Annotated Outline for Writing Land Management Plans*, dated February 2003 (CDFG 2003). The Guide organizes management information into elements, goals, and tasks, establishing a hierarchy of management, that together express the policy direction for management of the subject property. The Guide provides the following definitions of the terms used in LMPs.

Element: An element refers to any biological unit, public use activity, or facility maintenance program as defined below for which goals have been prepared and presented within this plan.

Biological Element: These elements consist of species, habitats, or communities for which specific management goals have been developed within the plan.

Public Use Element: Public use elements are any recreational, scientific, or other public use activity appropriate to and compatible with the purposes for which the property was acquired.

Cultural Resources Element: Cultural resource elements refer to preservation of cultural resources.

Facility Maintenance Element: This is a general-purpose element describing the maintenance and administrative program, which helps maintain orderly and beneficial management of the area.

Scientific Research and Monitoring Element: This element consists of scientific research and monitoring activities that support the goals of the biological elements with respect to habitat management, habitat restoration, sensitive species protection, and public use.

Fire Management Element: These elements consist of any pre, during, and post fire activities that support the attainment of the management goals of this plan.

Management Coordination Element: This element consists of activities related to the coordination of management activities occurring in adjacent and regional open space lands.

Goal: A goal is the statement of the overall condition or result that this LMP is intended to achieve through management efforts.

Biological Goal: A biological goal is the statement of intended long-range results of management based upon the feasibility of maintaining, enhancing, or restoring species populations and/or habitat.

Public Use Goal: A public use goal is the statement of the desired type and level of public use compatible with the biological element goals previously specified within the plan.

Cultural Resources Goal: A cultural resources goal is a statement describing management and its intended results for cultural resources.

Facility Maintenance Goal: A facility maintenance goal is a statement describing management and the resulting type and level of facility maintenance (which is intended to support attainment of the goals for the biological and public use elements).

Scientific Research and Monitoring Goal: A scientific research and monitoring goal is a statement describing the type of scientific research and biological monitoring that is desired to support the biological goals.

Fire Management Goal: A fire management goal is a statement describing a desired component of fire management planning and coordination of activities occurring before, during, and after fires.

Management Coordination Goal: A management coordination goal is a statement describing the desired types of management coordination activities in support of biological elements and associated goals.

Tasks: Tasks are the individual projects or work elements that implement the goal and are useful in planning operation and maintenance budgets.

Several of the tasks presented in this LMP refer to adaptive management. The adaptive approach to management is defined below:

Adaptive Management: Adaptive management is a dynamic strategy in which management efforts are monitored regularly to assess their status and effectiveness. Monitoring results are then evaluated and used to update management goals and implementation strategies. The adaptive management and monitoring component is designed to provide sufficient data on the status of resources, identify trends, provide recommendations and a process for implementing remedial management actions, and provide a means to evaluate the efficacy of those actions. Where actions are shown to be insufficient, alternative management tools are developed and implemented.

Evaluating monitoring results and systematically adjusting actions, where needed, allows managers to respond to the actions they employ. Active adaptive management employs management programs that are designed to experimentally compare selected policies or practices by evaluating alternative hypotheses about the system being managed (BCFS 2003). The active adaptive management approach creates and tests hypotheses for likely remedial management actions, and then evaluates their efficacy to determine if further or alternative management actions are required. An active adaptive management program treats each management action as an experiment, and each monitoring strategy as a means to test a hypothesis, allowing a

management program to proceed even though knowledge may be incomplete about alternative approaches (CNLM 2001). Adaptive management (responsive and active) has been applied to all elements within this LMP.

Finally, many of the tasks described for the goals under each of the elements presented in this plan are interrelated. Therefore, where relevant, tasks are cross-referenced to minimize redundancy throughout this section.

B. BIOLOGICAL ELEMENTS

Four biological elements are discussed in this section: Habitat (wetlands/riparian and uplands), Special Status Species (threatened/endangered and non-listed), Managed Species (non-native or nuisance species), and Game Species (i.e., species that may be hunted). Within each element, several goals are identified along with tasks that will help implement each goal. Because this LMP uses an ecosystem level approach to management, consistent with the goals and policies of the Department and the MSCP Subarea Plan, management objectives will typically be discussed in terms of habitats rather than individual species. However, several federal and state listed species are addressed individually in the Sensitive Species Element. Finally, potential impacts due to management activities associated with the tasks described are discussed at the end of this section.

Within the biological elements, reference is made to both qualitative and quantitative surveys. These types of surveys are generally described below.

> Qualitative Surveys: Qualitative biological surveys are conducted to generally assess and describe a habitat, species population, or other biological feature. The descriptions can consist of observations or other kinds of information that convey the quality of what is being evaluated. Qualitative surveys are conducted to determine the suitability of a feature (e.g., a vegetation community type) to support a resource (e.g., a species). Qualitative surveys are also conducted to evaluate the overall health of a feature to determine whether it is sustaining, degrading, or absent. Qualitative surveys do not involve measuring or counting specific attributes about a feature and typically do not involve a protocol; rather, qualitative surveys utilize a more general, random methodology.
>
> Quantitative Surveys: Quantitative surveys are conducted to obtain measurable details about a habitat, species population, or other biological feature, e.g., a population size, acreage, frequency of a species occurrence or its density within an area, or other ratings.

Quantitative surveys are often performed during specific seasons when the resource is most obvious. In addition, quantitative surveys are often conducted at specific intervals (e.g., seasonally, or annually) to maximize the accuracy of the information collected. Results from repeat surveys may also be used to evaluate change over time. Numbers derived from quantitative surveys at one location may be compared with numbers derived from evaluations at another location to determine whether a resource is doing better or worse than a particular area. Quantitative surveys typically involve a resource-specific protocol or standard methodology to quantify the resource size.

Management opportunities and constraints that are associated with the goals and tasks presented for all biological elements are summarized below.

Opportunities

- Ecological diversity. HCWA significantly contributes to the conservation of ecological diversity and ecosystem integrity within the regional context of southern California and northern Mexico.

- Ecosystem-based management. Ecosystem level management has many advantages: it allows for the conservation and protection of numerous species at once; it protects the integrity of ecological processes; and it is much more cost-effective than a species-by-species approach. Managing and protecting the natural physical and biotic resources will help sustain the natural biodiversity within the wildlife area and protect sensitive species that utilize these habitats.

- Sensitive natural resources. By managing the property as a wildlife area, the Department plays an active role in the conservation of sensitive natural resources through the protection, conservation, enhancement, and restoration of natural habitat, all of which benefits the multiple sensitive species that depend on the diverse habitats within HCWA, as described in Section III.

- Wildlife movement corridors and habitat linkages. By managing the property as a wildlife area, the Department provides for the ongoing use of vital wildlife movement corridors and maintains valuable habitat linkages, features that provide for gene flow and species dispersal into new areas. Because wildlife movement corridors and habitat linkages are essential to the health and viability of plant and animal populations, it is essential to maintain these features within HCWA.

- Value added. While HCWA currently supports and conserves high-quality biological resources and provides educational opportunities regarding those resources, there are numerous opportunities for enhancing and restoring areas where past or current uses have adversely affected biological resources, and for providing additional educational benefit to the public.

- Compatible uses. As a wildlife area, the allowable wildlife-dependent public uses will be managed to ensure the goals for protecting and providing for no net loss of the current function of the native habitats are met, and the protection of the species that depend upon those habitats is constant.

Constraints

- Staffing. The primary constraint to habitat and species management, whether through maintenance or active restoration efforts, is funding for the staff that will be necessary to implement the tasks outlined below and also develop site-specific plans, as needed.

- Adjacent development. Increasing development to the north, including residential expansion and a large casino that is planned on the Jamul Indian Reservation, is expected to place additional pressure on the wildlife area and adjacent protected lands in a variety of ways:

  - Increased traffic in the area could result in more road kill of animals;

  - An increasing population may bring an increasing desire for additional public recreation, which may be at odds with habitat and species conservation and current wildlife-dependent uses;

  - Development can result in greater edge effects, including habitat fragmentation, invasion by non-native plant and animal species, and an increase in water flow or contaminants (such as pesticides, herbicides, and fertilizer) from the runoff of adjacent privately owned properties. Indirect impacts from surrounding development such as noise and lighting may also alter the natural state of the wildlife area.

- Past practices or events. The following past practices or events have had a negative impact on much of the habitat:

  - Grazing and agricultural practices of the previous landowner resulted in severe degradation of some of the riparian corridors and grasslands, which serve as

habitat, movement corridors, and nesting and feeding areas for a number of species. The extent of disturbance may make it difficult to eradicate nuisance or rapidly spreading non-native species.

– Unabated erosion along segments of some of the stream channels has resulted in the formation of steep gullies.

- Wildlife-linked diseases. Wildlife-linked diseases could potentially affect native wildlife species on the wildlife area directly through infection, or indirectly through vector control methods. For example, methods used to control mosquitoes, such as the use of pesticides or mosquito fish, may do more harm to the native populations than good. Great care should be taken before using these types of controls.

- Illegal activities. Illegal use of the property includes off-road vehicles, trash dumping, poaching, general access in unauthorized areas, and illegal immigration. These activities can cause harm to the environment by damaging habitat, increasing habitat fragmentation, and direct harm to wildlife. In particular, past unauthorized use of motorbikes within the HCWA has resulted in degradation of some of the highly sensitive coastal sage scrub/clay lens habitat, which supports two of the three known federally listed species that occur within HCWA.

1. Bio 1 Element: Habitat

The goals and tasks included in this section will help provide for no net loss of habitat value from the present conditions within the wildlife area, thereby maximizing the multi-species function of HCWA.

The Habitat Management goals and tasks are organized below according to those pertaining to wetland and riparian habitats, and those pertaining to upland habitats. For both of these categories (wetlands and uplands), the tasks pertain to management and enhancement of existing habitats, or restoration of habitats. For the purposes of this LMP, habitat enhancement and habitat restoration are defined as follows:

Enhancement: Activities conducted in existing habitats that increase, or provide for the increase, of one or more of the ecosystem functions (e.g., natural increase in native species cover, numbers, and diversity through the elimination of non-native species).

Restoration: Reestablishment of habitat characteristics and function(s) at a site where they have ceased to exist, or exist in a substantially degraded state (e.g., restored native habitat through the elimination of non-native species, physical remediation of degraded areas, and addition of native species characteristic of the area prior to disturbance).

Wetlands and Riparian Habitats

Bio 1.1 Goal – Wetlands and Riparian Habitat Management and Enhancement

Conserve, manage, and enhance wetlands and riparian habitat to promote native species diversity, genetic flow, and ecological and hydrological function.

Tasks:

Bio 1.1.1 Survey and Ongoing Monitoring. Conduct periodic surveys to maintain accurate records of the extent and condition of the wetland and riparian habitats within HCWA, and the functioning of the riverine systems.

a) Qualitative surveys should be conducted annually to detect immediate threats to the habitats.

b) Quantitative surveys should be conducted every 3 to 5 years to document changes and trends, and allow for timely remediation efforts, as needed. Characteristics to assess at representative locations include overall habitat structure and condition (i.e., under-story, mid-story, and upper-story), species diversity, and interconnection with neighboring habitats.

Bio 1.1.2 Assess Threats and Set Priorities.

a) During general habitat condition surveys, map areas that are becoming damaged or degraded due to human-caused activities, or natural causes, such as weather or fire events. Issues of concern include adverse edge effects, fragmentation, or general habitat degradation. Signs of degradation include new introduction or expansion of non-native species, unnatural soil compaction, vegetation removal, erosion, increased sediment loads, and trash.

b) Prioritize remediation efforts based on relative sensitivity of the wetland or riparian type affected, whether a habitat connection is at risk, and potential for expansion of the threat.

c) Identify remediation measures (e.g., signage, installation of split-rail fencing, boulders, or other barriers).

d) Specific threats to the riparian corridors within HCWA are the trails that parallel Hollenbeck Canyon, Jamul Creek, and other stream channels. These features and the effect of their use must be evaluated to determine whether special improvements, e.g., stream crossings, closure after substantial rain events, or realignment away from the riparian corridor, are warranted (refer to Public Use element).

Bio 1.1.3 Management. Manage all wetlands and riparian habitats to maintain and enhance existing species and structural diversity.

a) Prepare annual work plan by December for management to be conducted the following year. This plan should identify the management and restoration tasks that are to be completed, staffing requirements, a funding analysis, and schedule for completion.

b) Manage wetland and riparian habitats for a variety of structure to provide breeding and foraging habitat for the species that occur or have the potential to occur on HCWA, and to accommodate a high diversity of native wildlife.

c) Manage and enhance, as needed, the permanent water sources (e.g., Hollenbeck Canyon, upper reach of Jamul Creek, and Dulzura Creek near Border Patrol check station) to maintain the habitat diversity they provide within the wildlife area.

d) Where feasible, implement a riparian and wetlands buffer (set-back) of 100 feet or more from the edge of riparian habitat to protect the riparian zone from public use, and to allow riparian drainages to meander. Realign segments of trails and management roads, if feasible, where these facilities are closer than 100 feet from the edge of riparian habitat (see also Bio 1.2.1 and Pub 5.2).

e) Implement erosion and sediment control best management practices (BMPs) as necessary to protect habitat (e.g., prevent gully formation and undercutting along riparian corridors).

- Bio-engineered erosion control methods (e.g., straw wattles, logs, and boulders should be chosen over hardscape methods.

- Remove any sediment buildup that may threaten critical riparian habitat; otherwise, only remove sediment where loads threaten road crossings. Allow for natural sediment deposits and shifting.

f) Remove individuals of invasive, non-native plant species to reduce the threat of future expansion and enhance habitat for native species. Coordinate any herbicide applications with the Department's Pesticide Investigations Unit.

g) The mature pepper tree associated with the homestead site in Hollenbeck Canyon will be retained because of its historical connection; however, all progeny of the pepper tree should be removed.

h) Maintain and enhance wildlife corridors.

- Remove impediments to wildlife movement as needed.

- Monitor wildlife movement through culverts and assess the need to construct new or enhance existing structures.

- Determine whether barriers (e.g., split rail fencing, boulders, etc.) are needed to limit public access into areas potentially critical for wildlife movement (e.g., narrow segments of drainages).

- Continue to coordinate with other agencies, such as BLM, USFWS, and USFS to prioritize land acquisition such that large blocks of contiguous, protected lands will be created adjacent to HCWA and RJER.

i) Evaluate all future management programs for potential impacts to sensitive biological resources and take appropriate steps to mitigate potential significant impacts.

j) Implement adaptive management strategies by monitoring data. Re-evaluate priorities and management activities based on periodic assessments. Specific adaptive management approaches include:

- For each management goal, evaluate the potential to implement pilot studies or experimental design in which multiple management strategies are tested and compared to a control. For example, invasive species control could include three management areas – one with no treatment, and two with different treatments such as herbicide application and mechanical removal.

- Establish success criteria (clear and concise objectives) that must be met to consider the management task(s) successful.

- Use monitoring data to assess overall habitat integrity, detect changes in species distribution and abundance, and detect positive and adverse effects of management activities, human use, and non-native species.

- Compile information relevant to monitoring program design, by regularly reviewing documents such as framework management plans, MSCP monitoring protocols, or reports about experimental design.

- Reevaluate priorities and management activities based on this assessment.

Bio 1.2 Goal – Wetlands and Riparian Habitat Restoration

Restore and enhance wetlands and riparian habitat to foster desired ecological and hydrological function.

Tasks:

Bio 1.2.1 Survey and Ongoing Monitoring. Identify areas where expansion or restoration of existing wetlands or riparian habitat could be conducted and would support the goals of this LMP. Coordinate efforts with those being conducted on the adjacent RJER. Specific restoration areas include those noted below; others may be identified after further site review.

a) Remove eucalyptus trees and giant reed where these non-native species dominates the riparian corridor, and subsequently restore the area via planting, seeding, monitoring, and additional remediation where needed. Target areas for eucalyptus removal and site restoration include the western segment of Jamul Creek within HCWA and Dulzura Creek near the old Honey Springs Ranch. Target areas for giant reed removal and site restoration are Dulzura Creek and an unnamed tributary in the Honey Springs Ranch parcel.

b) Restore riparian corridors that have become severely degraded by unabated erosion by localized ground recontouring, followed by planting, seeding, monitoring, and additional remediation of the area where needed. Target area for riparian restoration includes the unnamed tributary that flows into Hollenbeck Canyon in the west-central portion of the property where ongoing erosion has created a deep gully.

c) Unnecessary trails near wetland and riparian habitats should be decommissioned and restored. Segments of open trails may need to be realigned to provide a buffer of 100 feet or more from the edge of riparian habitat. Once realignment is complete, the previously open segments should be restored.

d) Restore one or more of the former stock ponds in the eastern portion of the wildlife area, near the old Honey Springs Ranch, for use by dog trainers (refer to Public Use and Facility Maintenance elements). Provide appropriate wetland vegetative cover useful for training exercises that will also provide localized habitat diversity for wildlife.

e) Create additional water sources for wildlife by developing springs or installing wildlife drinkers (i.e., artificial guzzlers) in upland areas.

Bio 1.2.2 Assess Threats and Set Priorities. Evaluate the potential benefits associated with the restoration projects identified then prioritize the projects for implementation.

a) Prioritize areas to be restored by designating them as “high” (areas that should be restored immediately to avoid imminent damage to habitat or sensitive species), “medium” (areas that should be restored within

the next 3 years), and "low" (areas that should be monitored to ensure the degradation does not worsen, with area restoration conducted when time, budget, and staffing allow).

b) Consider benefits to downstream riparian systems within HCWA and the adjacent RJER.

c) Pursue projects that work with nature, rather than against it, by allowing creeks to meander naturally, rather than trying to force flow against its natural path. This method requires less ongoing maintenance.

Bio 1.2.3 Management. Design for and manage all wetlands and riparian habitat restoration to increase existing species and structural diversity.

a) Develop area-specific restoration plans, including planting design and specifications, goals, and costs. Plans for areas that are heavily infested with non-native species should contain an intensive exotic species removal component, including herbicide treatment and replanting.

b) Pursue appropriate permits for restoration projects within state and federal waters (i.e., wetlands and waters regulated under Section 404 of the Clean Water Act and Fish and Game Code Sections 1600-1616).

c) Limit access, as appropriate, by fencing off restored areas to protect them from impacts due to unauthorized public use.

d) Pursue funding for identified restoration projects.

e) Conduct post-restoration monitoring.

f) Adaptive management. Use monitoring data to assess progress of the restored area [refer to Bio 1.1.3 (j) for details].

Upland Habitats

Bio 1.3 Goal – Upland Habitat Management and Enhancement

Conserve and maintain upland habitats in a manner that conserves native regional biological diversity.

Tasks:

Bio 1.3.1 Survey and Ongoing Monitoring. Conduct periodic surveys to maintain accurate records of the extent and condition of the upland habitats within HCWA, and document changes.

a) Qualitative surveys should be conducted annually to detect immediate threats to the habitats.

b) Quantitative surveys should be conducted every 3 to 5 years to document changes and trends, and allow for timely remediation efforts, as needed. Characteristics to assess at representative locations include overall habitat structure and condition, species diversity, incidence of non-native species, and interconnection with neighboring habitats.

c) Survey areas of oak woodland habitat to assess overall habitat integrity; detect changes from edge effects and potential fragmentation or degradation from unauthorized access, and signs of disease; and identify areas where site improvement is warranted.

Bio 1.3.2 Assess Threats and Set Priorities.

a) During general habitat condition surveys, map areas that are becoming damaged or degraded due to human-caused activities, or natural causes, such as weather or fire events. Issues of concern include adverse edge effects, general habitat degradation, fragmentation (particularly native grasslands, coastal sage scrub/clay lens habitat, and oak woodlands), high fuel loads (particularly chaparral), and monotypic age classes. Signs of degradation include new introductions or expansions of non-native species, unnatural soil compaction, vegetation removal, erosion, trash, dense cover with high amounts of dead biomass.

b) Prioritize remediation efforts based on relative sensitivity of the upland habitat affected, whether a habitat conversion is at risk, and potential for expansion of the threat.

c) Identify remediation measures, e.g., signage, installation of split-rail fencing, boulders, or other barriers to direct public use away from areas where adverse effects are occurring, and fuel reduction programs (refer to Fire 1.0).

d) Specific threats to upland habitats within HCWA are the trails that are located near the coastal sage scrub/clay lens habitat in the north-central portion of the wildlife area. These trails and the effect of their use must be evaluated to determine whether protective measures, e.g., installation of split-rail fencing, closure after substantial rain events, or realignment, are warranted [refer to Bio 2.1.3(b) and (c)].

Bio 1.3.3 Management. Manage all upland habitats to maintain and enhance existing species and structural diversity, or desired condition.

a) Prepare annual work plan by December of the previous year (see Bio 1.1.3).

b) Protect and maintain upland habitats to provide breeding and foraging habitat for the sensitive species that occur or have the potential to occur on HCWA.

c) Manage upland habitats (particularly native grasslands, coastal sage scrub/clay lens habitat, and oak woodlands) to maintain habitat diversity, accommodate a high diversity of native wildlife species, and avoid conversion to another habitat type.

d) Manage non-native grasslands in designated hunting areas by planting food crops (e.g., cereal wheat and safflower) to attract dove and quail.

e) Provide erosion control where necessary to prevent gully or rill formation within uplands, and adverse sedimentation into adjacent riparian areas.

f) Remove individuals of invasive, non-native plant species to reduce the threat of future expansion and enhance habitat for native species.

g) Manage the non-native grassland habitat in the northern and west-central portions of the wildlife area for continued use by dog trainers, and to prevent severe degradation.

h) Determine whether barriers (e.g., split rail fencing, boulders, etc.) are needed to limit public access into areas potentially critical for wildlife movement (e.g., narrow segments of oak woodlands).

i) Evaluate all upland habitat management programs for potential impacts to sensitive biological resources and take appropriate steps to avoid or mitigate potential significant impacts.

j) Adaptive management. Refer to Bio 1.1.3 (j) for details.

Bio 1.4 Goal – Upland Habitat Restoration

Restore and enhance upland habitats in a manner that restores habitat functions and provides opportunities for the expansion or reintroduction of native upland species.

Tasks:

Bio 1.4.1 Survey and Ongoing Monitoring. Identify areas where expansion or restoration of existing upland habitats could be conducted and would support the goals of this LMP. Coordinate efforts with those being conducted on the adjacent RJER. Specific upland habitat types and areas for restoration include those noted below; others may be identified after further site review.

a) Grasslands. Exclusive of the hunting field where cereal wheat and safflower are sown to benefit dove and quail populations, the disturbed non-native grasslands in the west-central portion of HCWA between Jamul Creek and Hollenbeck Canyon is a candidate area for restoration and enhancement.

b) Coastal sage scrub/clay lens. Restore portions of this sensitive habitat have become degraded from invasion by non-native plant species and associated thatch buildup, and physical disturbance from motorbikes.

c) Unnecessary trails and roads should be decommissioned and restored. Segments of open trails may need to be realigned to provide a greater buffer near highly sensitive upland habitats, or to provide an appropriate buffer near riparian habitat (refer to Bio 1.1.3). Once realignment is complete, the previously open segments should be restored.

Bio 1.4.2 Assess Threats and Set Priorities. Evaluate the potential benefits associated with the upland restoration projects identified, then prioritize the projects for implementation.

a) Prioritize areas to be restored by designating them as "high" (areas that should be restored immediately to avoid imminent damage to habitat and sensitive species), "medium" (areas that should be restored within the next 3 years), and "low" (areas that should be monitored to ensure the degradation does not worsen, with area restoration conducted when time, budget, and staffing allow).

b) Consider benefits to sensitive species known to occur within HCWA and the adjacent RJER.

c) Restore degraded upland areas to provide increased nesting, breeding, and foraging habitat for special status species and other wildlife.

d) Restore degraded areas to provide increased habitat for game species.

Bio 1.4.3 Management. Design for and manage all upland habitat restoration to increase existing species and structural diversity.

a) Develop area-specific restoration plans (refer to Bio 1.2.3)

b) Pursue appropriate permits for restoration projects for habitats that are occupied by state and federally listed species (e.g., Quino checkerspot butterfly and San Diego ambrosia protected under Section 7 of the Endangered Species Act and Fish and Game Code Section 2081).

c) Incorporate experimental design. An experimental approach for restoring highly disturbed non-native grasslands could evaluate the most effective method for restoring the larger area (i.e., test the most effective method for removal of thatch and new non-native vegetative growth through a combination of mowing, raking, grazing, limited herbicide application, and/or prescribed burns, followed by seeding, monitoring, and additional remedial efforts as needed). If managed grazing is used, exclusionary fencing (such as temporary T-post) should be placed around all riparian or newly restored habitats to avoid access by grazers, but maintain wildlife access.

d) Remove invasive plant species from the coastal sage scrub/clay lens habitat and restore the treated areas with appropriate native species via planting and seeding using stock collected from within HCWA.

e) Limit access, as appropriate, by fencing off restored areas to protect them from impacts due to unauthorized public use.

f) Pursue funding for identified restoration projects.

g) Conduct post-restoration monitoring and additional remediation, where needed.

h) Adaptive management. Use monitoring data to assess progress of the restored area [refer to Bio 1.1.3 (j) for details.

2. Bio 2 Element: Special Status Species

The high quality habitats within HCWA, the adjacent RJER, and neighboring conserved lands provide for regionally important high species diversity. The ecosystem approach to management presented in this LMP will provide protection for the many sensitive species that are known to occur within HCWA and other potentially occurring sensitive species (see Section III). The following goals and tasks summarize the most important management components to help provide for the long-term viability of populations of the more vulnerable species.

The management guidelines within this element are organized below according to those pertaining to Listed Rare, Threatened, and Endangered Species (Bio 2.1), and those pertaining to Non-listed Sensitive Species (Bio 2.2), including those covered by MSCP. Management of listed species should include all tasks in Bio 2.2, as well as the species-specific tasks outlined in Bio 2.1. The goals and tasks included in this section will help provide for the long-term viability of populations of the species of concern in this region.

Listed Rare, Threatened, and Endangered Species

A combination of general population management, enhancement, and restoration will be necessary to maintain and preserve the most sensitive species found on HCWA. These approaches are generally described below.

General Population Management: General population management pertains to those activities that will help contribute to the health and stability of the sensitive species

populations found on HCWA. These tasks should be conducted even if the populations appear stable in population area and/or density.

Population Enhancement: Population enhancement pertains to those activities that are intended to stop the decline of a sensitive species population as well as to stabilize the population. These tasks should be conducted if the population appears to be declining in area and/or density or if there is concern that it might decline in the near future.

Population Restoration: Population restoration tasks are activities that are intended to not only stop the decline and stabilize a sensitive species population, but also to improve the population's health. These tasks should be conducted if the population appears to be declining in area and/or density with a threat of extirpation, or if population enhancement techniques have not been sufficient to stabilize the population.

Bio 2.1 Goal – Protect and Enhance Populations of Federal and State Listed Species

Protect, monitor, and enhance populations and preferred habitat of federal and state listed species.

Tasks:

Bio 2.1.1 Surveys and Ongoing Monitoring. Conduct focused species surveys for all occurring or potentially occurring federal and state listed species. Target species include San Diego thornmint, Quino checkerspot butterfly, and coastal California gnatcatcher. Only qualified biologists may conduct surveys or behavioral studies on any federal and state listed species within HCWA.

a) Qualitative surveys should be conducted annually to detect immediate threats to known populations of listed species within HCWA, and to generally assess the condition of the population.

b) Protocol-level or other appropriate type of focused surveys should be conducted every 3 to 5 years to document species population health, count, and extent, and to allow for timely remediation efforts, as needed.

c) Areas of suitable habitat, not currently known to support listed species, should be surveyed to detect new populations of listed species within the property.

Bio 2.1.2 Assess Threats and Set Priorities. Refer to Bio 2.2.2.

Bio 2.1.3 Management. In addition to the management tasks outlined in Bio 2.2, conduct the following general and species-specific management activities as needed:

a) Restore and enhance native habitat preferred by rare, threatened, or endangered species known from or with the potential to occur at HCWA. Refer to Bio 1.2 and 1.4.

b) Implement management measures for San Diego thornmint. Surveys in 2005 noted that a portion of the population had been recently impacted by illegal off-road activity that reached the site from the neighboring trail (coincident with this population is Quino checkerspot butterfly [see below], Palmer's grappling hook, and small-flowered morning-glory).

- Manage the invasive plant species within this area to minimize the decline of San Diego thornmint. The cover of weed species in and around the thornmint population is too high to expect the population to remain stable. Thornmint is known to be highly sensitive to weed invasion compared to other clay soil endemics (Bauder et al. 1994).

- Install split-rail fencing along the access road to restrict illegal encroachment into the thornmint population. Extend the fencing from the access gate, down past the southerly clay lens area to protect the thornmint as well as the Quino checkerspot butterfly.

- Install signage along the fencing, as appropriate.

- Install permanent markers to document the outer boundary of the thornmint population. These markers will facilitate surveys by biologists and enhancement and restoration activities. The location of the markers should be recorded with Global Positioning System equipment.

- Enhance the population. A program of dethatching around the thornmint will help stabilize the population. Dethatching (raking, hand clearing, and weed eating the dead remains of weed species

from the previous season) helps to reduce the organic thatch buildup and the non-native seed bank that restricts the germination and development of native species. Native seed should be collected prior to dethatching and then redistributed following dethatching. Dethatching should be conducted every 3 to 5 years until the desired condition is met.

- San Diego thornmint seed can be collected for distribution within the existing populations to fill in the gaps within the populations. Redispersal should only be done in appropriate areas adjacent to existing populations. Seed should be collected, stored at an appropriate facility, and then redistributed in the fall, prior to the next wet season.

- As needed, restore the population. If thornmint populations continue to decline despite dethatching, additional weed control measures (herbicide use or mowing conducted by a qualified crew) should be considered. Coordinate all potential permit activities with the Department's Habitat Conservation Planning Branch (HCPB).

- Conduct seed collection and greenhouse propagation if the populations of thornmint continue to decline despite population enhancement and restoration activities.

c) Implement management measures for Quino checkerspot butterfly.

- Restore and expand Quino checkerspot habitat by planting appropriate areas with larval host species. Target areas for expansion should occur near existing habitat or along a flyway, and should consist of relatively flat topography and suitable soils, vegetation composition, and structure. Candidate locations include portions of the coastal sage scrub/clay lens habitat where host plants are lacking or uncommon, or appropriate openings within neighboring upland scrublands and native grasslands.

- Control the fire frequency through an effective fire management program. The Quino checkerspot butterfly can survive a fire cycle of 20 years or more, but may be susceptible to more frequent cycles (Marschalek 2001). Refer to Fire 1.0.

– An experimental restoration program is currently being implemented (Caltrans and California Transportation Ventures) in the Johnson Canyon area east of SR 125. Evaluate the success of this project and incorporate successful management strategies into the Quino checkerspot butterfly enhancement and restoration effort for HCWA.

d) Implement management measures for coastal California gnatcatcher.

- Restore areas of disturbed and/or type-converted coastal sage scrub to regain appropriate habitat structure.

- Control the fire frequency through an effective fire management program (see Fire Management Element). The California gnatcatcher prefers open scrub habitat. Too frequent of a fire interval can prevent scrub habitats from reaching a maturity level capable of supporting the California gnatcatcher.

- Conduct regular cowbird trapping as necessary to protect gnatcatcher nestlings from this brood parasite. Refer to Bio 3.2.3.

- Control for the indirect effects of noise within gnatcatcher habitat by keeping noise levels at or below 60 dBA during the breeding season. Avoid the use of noise-generating equipment, and limit noise-generating public activities as necessary.

- Control for the indirect effects of night lighting within gnatcatcher habitat by shielding lighting from neighboring properties as feasible, using low-wattage sodium outdoor lighting near occupied habitat, and educating/encouraging the public to do the same.

- Avoid flushing young or adults from their nest by restricting public recreational and educational activities during the breeding season as necessary.

e) Wherever new populations of listed species, or additional listed species previously undocumented for HCWA, are detected, the type and level of active management for the area should be determined within 6 months of the detection.

f) Adaptive management: use monitoring results to reevaluate priorities and management activities. Refer to Bio 1.1.3 (j) for details.

Non-listed Sensitive Species

Bio 2.2 Goal - Protect and Enhance Populations of Non-listed Sensitive Species.
Protect, monitor, and enhance populations of non-listed sensitive species.

Tasks:

Bio 2.2.1 Surveys and Ongoing Monitoring. Conduct sensitive plant and animal species surveys every 3 to 5 years. Generally assess the condition of the known populations and document population count and area occupied.

a) Surveys should be conducted at the appropriate time of year (e.g., the appropriate blooming period for each species of plant, and breeding season for migratory birds).

b) Priority should be given to California Species of Concern and MSCP covered species.

c) Monitor wildlife movement, as feasible, within and beyond HCWA using tracking and camera stations as described in USGS (2002). Coordinate these surveys with those conducted for the adjacent RJER, and other neighboring conserved lands.

Bio 2.2.2 Assess Threats and Set Priorities. Identify threats to sensitive species. Focus on habitat-specific assemblages, i.e., grassland species. Prioritize areas for species management by designating them as "high" (species or assemblage in imminent danger where action must be taken as soon as possible), "medium" (action should be taken within the next 3 years), and "low" (species that should be monitored to ensure the threat does not worsen, with management action conducted when time, budget, and staffing allow). Incorporate these priorities into annual work plan for wetland and upland habitats, as outlined in Bio 1.1.3 and 1.3.3.

Bio 2.2.3 Management. Implement the following management activities to protect sensitive biological resources:

a) Follow MSCP guidelines for Area Specific Management Directives (ASMDs) for MSCP covered species (see Table 3-5 in MSCP Subregional Plan; Appendix H). ASMDs are guidelines for managing and monitoring each covered species and its habitat. For example, each narrow endemic species should be closely monitored and protected from direct (such as trampling) and indirect (such as edge effects) impacts.

b) Remove non-native predators that may threaten sensitive wildlife species.

c) Add structures such as bluebird nest boxes or bat houses as necessary to provide nesting or roosting opportunities for sensitive species.

d) Evaluate all future management programs for potential impacts to sensitive species and take appropriate steps to mitigate these impacts (e.g., the effect of dog training at any of the former stock ponds that may be restored on MSCP covered species in the vicinity).

e) Adaptive management. Use monitoring results to reevaluate priorities and management activities. Refer to Bio 1.1.3 (j).

3. Bio 3 Element: Managed Species

Managed species are non-native or nuisance plants and animals that require continuous, active management to control their populations so that they do not harm native species or natural habitats.

Bio 3.1 Goal – Control and Minimize Invasive, Non-native Plants

Control for invasive, non-native plant species that may negatively impact native species and habitats within the wildlife area.

Tasks:

Bio 3.1.1 Surveys and Ongoing Monitoring. As-needed, conduct surveys for invasive, non-native plant species and monitor the populations. The focus should be on the invasive, non-native plant species that occur among

sensitive plant species, or within 500 feet of sensitive plant populations, particularly listed plant species.

a) Qualitative surveys should be conducted annually to detect immediate threats from invasive species to known populations of listed species within HCWA.

b) Quantitative surveys (e.g., species density and mapping) should be conducted every 3 to 5 years to document the condition of the invasive species population within and surrounding (500 feet) the target sensitive species.

Bio 3.1.2 Assess Threats and Set Priorities. Identify threat for invasive plant species population expansion and associated degradation to native habitat or sensitive species population. Prioritize areas for invasive plant species management by designating risk as "high" (action must be taken as soon as possible), "medium" (action should be taken within the next 3 years), and "low" (action to be taken when time, budget, and staffing allow). Incorporate these priorities into annual work plan for wetland and upland habitats, as outlined in Bio 1.1.3 and 1.3.3. Management priorities for HCWA include:

a) Occurrences of invasive, non-native plants among or near (within 500 feet of) highly sensitive plant species.

b) New occurrences (i.e., previously unknown and/or currently small populations) of highly invasive plant species anywhere within HCWA are also a high priority as these occurrences should be eliminated while the population is most manageable.

c) Species designated as "high" by Cal-IPC should be prioritized for control or elimination.

Bio 3.1.3 Management. Control and eliminate, as feasible, populations of invasive, non-native plant species.

a) Eliminate the populations of eucalyptus that dominate the central segment of Jamul Creek and near the old Honey Springs Ranch.

b) Eliminate the giant reed that occurs within Dulzura Creek and an unnamed tributary in the Honey Springs Ranch parcel.

c) Eliminate the non-native grasses (including foxtail chess) that are threatening the San Diego thornmint and Quino checkerspot butterfly populations (among and within a 500-foot buffer) in the north-central portion of the property.

d) Management activities should be consistent with those currently being conducted by the Department within reserved lands.

e) Coordinate efforts and/or compare results with invasive plant species control programs being done elsewhere in the county (e.g., regional "weed teams" and the Department's Pesticide Investigations Unit).

f) Adaptive management. Use monitoring results to determine the effectiveness of non-native species control methods and protection of sensitive species; adapt management strategies as necessary. Refer to Bio 1.1.3 (j) for additional details.

Bio 3.2 Goal – Control and Minimize Non-native Wildlife Species

Control for non-native, predatory animal species that may negatively impact native species within the wildlife area.

Tasks:

Bio 3.2.1 Surveys and Ongoing Monitoring. As needed, conduct surveys for non-native wildlife species, and monitor the population. The focus should be on non-native wildlife species that may adversely affect sensitive wildlife species within HCWA.

Bio 3.2.2 Assess Threats and Set Priorities. Identify threat for non-native wildlife species population expansion and associated degradation to native habitat or sensitive species population. Prioritize goals and tasks for non-native wildlife species management by designating risk as "high" (action must be taken as soon as possible), "medium" (action should be taken within the next three years), and "low" (action to be taken when time, budget, and staffing allows). Incorporate these priorities into annual work plan, as outlined in Bio 1.1.3. The major threats from non-native species at HCWA include:

a) Aquatic predators (e.g., crayfish and mosquito fish).

b) Domestic pets.

c) Non-native or native predatory birds such as starlings, house sparrows, and cowbirds.

Bio 3.2.3 Management. Control and eliminate, as feasible, populations of non-native wildlife species, or native predatory species that cause harm.

a) Monitor cowbird populations in the wildlife area and establish trapping stations where cowbirds are found to be a problem.

b) Monitor populations of the European starling and house sparrow in the wildlife area and install nest boxes for bluebirds, woodpeckers, and other cavity nesters as needed.

c) Educate the surrounding communities about the threats to native wildlife caused by release of non-native species into the wild.

d) Adaptive management. Use monitoring results to determine the effectiveness of non-native species control methods and protection of native fauna. Adapt management strategy as necessary. Refer to Bio 1.1.3 (j) for additional details.

4. Bio 4 Element: Game Species

Bio 4.0 Goal – Manage Game Populations

Manage game populations and associated habitat to provide hunting opportunities for the public, while protecting sensitive biological resources.

Tasks:

Bio 4.1 Surveys and Ongoing Monitoring.

a) Conduct annual dove and quail counts to assess population condition and obtain trend data.

b) Conduct surveys every 3 to 5 years on resident and small game species throughout HCWA.

c) Conduct harvest surveys to track numbers, species, and locations of take.

Bio 4.2 Management. Conduct the following tasks to manage for game species:

a) Manage the wildlife area to maintain conditions suitable for game species.

- The planted field in the west-central portion of the wildlife area where cereal wheat and safflower are sown to attract doves. This area should be monitored to determine if sown crops are invading adjacent native habitats.

- Rotate hunting areas or periodically close areas if heavy use is adversely affecting the habitat that game species prefer.

- Consider providing closed zones as refugia if needed.

b) Manage for all aspects of game species' needs; food, water, cover and breeding habitat.

Bio 4.3 Enhancement.

a) Assess current food plots for success. Evaluate other potential areas for manipulation or native/passive feeding centers. Continue planting as resources allow and benefit is derived.

b) Assess current water sources. Evaluate other potential areas where water sources can be developed or artificially enhanced.

c) Incorporate brush piles or vegetation design that will provide cover for quail and small game.

d) Construct and install dove cones where appropriate.

e) Evaluate success of habitat improvement projects and modify as necessary to achieve desired results.

Potential Environmental Impacts Associated with the Biology Element

Although the primary goal of HCWA is to protect sensitive biological resources while providing for wildlife-dependent public uses, potential impacts could result from certain management actions, such as surveys and monitoring, erosion and sediment control, restoration activities, invasive non-native plant eradication, non-native wildlife control, and game management.

However, implementation of the following actions is expected to reduce potential impacts to a less than significant level.

- Surveys and monitoring will be performed by qualified Department staff, researchers, or volunteers under the direction of Department staff, following established protocols.

- Preventative measures will be used for erosion and sediment control whenever possible. If heavy equipment is necessary, any impacts to habitat will be actively restored.

- New facilities will be placed in disturbed habitat whenever possible. Temporary staging areas will be actively revegetated. Permanent impacts to habitat will be avoided, minimized, and/or mitigated.

- Management activities will include appropriate mitigation measures (i.e., temporary fencing to protect riparian areas from grazers, prescribed burn protocols, appropriate use of herbicides and pesticides, etc.). All future management actions will be evaluated for potential impacts.

- The following projects identified in this LMP will result in a net benefit to sensitive natural resources in the wildlife area: active and passive restoration, habitat enhancement, species reintroduction, and sensitive species conservation.

C. PUBLIC USE ELEMENT

It is the policy of the California Fish and Game Commission that lands under its administration be available to the public for wildlife-dependent recreational use whenever such uses will not unduly interfere with the primary purpose for which such lands were acquired. HCWA was acquired to provide public hunting opportunity and for the protection of multiple species within the MSCP/NCCP area. The purpose of the MSCP is to create core land areas that are connected by corridors to allow wildlife movement. HCWA and the adjacent RJER provide a unique opportunity as core areas pursuant to the MSCP due to their location on either side of SR 94 and the fact that they provide a continuous biological linkage between additional open space east and west of these department-owned lands. USFS, BLM, and USFWS lands are also core areas. The agencies have a priority of acquiring land within the NCCP area.

Management opportunities and constraints that are common to all public use elements are discussed as follows. Additional opportunities or constraints specific to a particular goal are noted below.

Opportunities

- Public Uses. Opportunities for public uses at HCWA include hunting, walking, hiking, wildlife observation, and nature study. Nature study opportunities available include permitted species collection, photography, drawing, and painting.

- Capacity. Currently HCWA observes low levels of public use. This is consistent with its "Type C" wildlife area designation and allows for a higher-quality outdoor experience.

- Public Access. HCWA is open to the public on a daily basis for compatible uses listed above.

- Regulation Review. Specific regulations within Title 14 are updated every 3 years to support the overall mission of wildlife areas. This periodic update provides an opportunity to review and revise the regulations pertaining to HCWA.

Constraints

- Habitat and Species Preservation. While public access is an important component in the Department's mission, protection of habitat and wildlife is prioritized. The public's effect on HCWA lands must be balanced with habitat and wildlife protection. Capacity monitoring can assist in helping to identify that balance.

- Circulation. Road/trail closures, where needed, will be based on wildlife and habitat needs. Compatible uses will be continued or moved to an area that does not harm habitat or wildlife. Circulation elements necessary for the Border Patrol and fire agencies will be retained; these areas may only be accessible to the public where appropriate.

- Staffing. Limited availability of staff and funding for operations such as opening and closing of gates, garbage collection, visitor use coordination, and law enforcement. Also staff and funding are limited for maintenance of roads, trails, parking lots, fencing, and signs.

- Human Disturbance. Potential effects of human disturbance on riparian areas, grasslands and uplands; to wildlife including frightening wildlife, flushing of wildlife from habitat, disturbance while roosting, and noise disturbance; and potential effects of human disturbance to wildlife during breeding and nesting season.

- Wildlife Refugia. Protection of wildlife by closing some areas to public use.

- Protection of Cultural Resources. Cultural resources have the potential to be affected by uses.

- Potential Human Conflicts. Potential conflicts or incompatibilities among various public uses (for example, hunting and wildlife viewing cannot easily be accommodated in the same area at the same time); and potential, occasional encounters with Border Patrol officers.

- High Use Levels. During hunting seasons high use levels can be a constraint to safety at wildlife areas in general. However, at HCWA, overcrowding has not posed a problem. Communication with hunters and hunter surveys at check-in can assist with identifying whether safety concerns are arising among hunters. Surveys will be utilized as an additional tool to identify if high use levels become an issue (see monitoring plan).

- Environmental Education. Environmental education is not planned to be formally provided at HCWA. The adjacent RJER will provide ample resources for environmental education.

- Closed Areas. "Closed areas" within HCWA are only available to Department staff (or other authorized personnel). There are currently two closed areas, one in the central portion and one in the south portion of HCWA (Figure 11). In addition, hunting is not allowed in the northern portion. These closed and use-restricted areas constrain public use in HCWA. Additional closures could occur as safety or biological needs arise and would be implemented using fencing and/or signage. Fencing types could be wire or split-rail such as along trails to prevent visitors from leaving the trail. Particular areas to be evaluated for closure to the public include riparian zones and habitat occupied by select sensitive species, e.g., San Diego thornmint and Quino checkerspot butterfly.

A total of nine goals pertaining to public access, public safety, hunting, wildlife observation, trail use, dog training, signage, community partnership, and regulations have been identified for this element. Within each goal, numerous tasks are identified.

Pub 1.0 Goal – Public Access

Provide compatible wildlife-dependent opportunities for public access.

Tasks:

Pub 1.1 Continue to maintain access routes to existing parking lots.

Pub 1.2 Assess the eastern end for a potential additional parking lot near the Honey Springs Ranch.

Pub 1.3 Improve official trail system by regular maintenance and improved signage.

Pub 1.4 Clearly mark closed trails and provide barriers to preclude access by the public.

Pub 1.5 Evaluate use levels and visitor satisfaction periodically by using visitor surveys.

Pub 1.6 Close HCWA for bicycles and horses for up to 3 days after rain events to prevent damage to trails.

Pub 1.7 Evaluate and improve trails for American with Disabilities Act (ADA) access.

Pub 1.8 Close HCWA to the public during and following fire and severe weather events.

Pub 1.9 Maintain a clear line of sight at the vehicle entrance to HCWA by trimming and maintaining vegetation.

Pub 1.10 Document condition of habitat in relationship to public use capacity. Conduct quantitative user surveys every 3 to 5 years or more frequently and estimate user capacity. If resource damage is occurring then public use elements may be removed, reduced, or limited to certain locations.

Pub 1.11 Prohibit unauthorized activity. Increase enforcement and create additional educational materials when unauthorized activities are taking place. Department staff may use revegetation to control erosion and eventually will repair damaged areas.

Pub 1.12 Remediate damage from unauthorized activities.

Pub 2.0 Goal – Public Safety

Minimize competition and conflicts among users and facilitate compatibility between public uses.

Tasks:

Pub 2.1 Encourage user safety through monitoring and enforcement of regulations.

Pub 2.2 Inform the public of HCWA use designations and use restrictions through outreach, signage, physical barriers, and the Department's website, especially times and locations where hunting is allowed.

Pub 2.3 Identify potential conflicts between recreational uses and resolve such conflicts.

Pub 2.4 Pursue special funding and/or volunteers to have personnel available on-site during high use times to monitor visitor activities and provide information as needed to visitors.

Pub 2.5 Include a Department contact person's name, phone number, and e-mail address on signage for questions, comments, and suggestions regarding compatible uses of HCWA.

Pub 2.6 Conduct periodic reviews of public uses of HCWA; evaluate rules, regulations, guidelines, and materials to ensure they are wildlife-dependent and compatible with the goals for the area.

Pub 3.0 Goal – Hunting

Provide safe, compatible hunting opportunities to the public.

Tasks:

Pub 3.1 Continue current hunting program in specified areas.

Pub 3.2 As habitat and access are improved, evaluate whether current hunting program may be expanded.

Pub 3.3 Maintain physical separation of closed zones through signage and landmarks that blend into the landscape, such as boulders along access roads.

Pub 3.4 Provide hunter safety instruction on a regular basis at HCWA and throughout the region.

Pub 3.5 Continue encouragement of young hunters through participation in junior hunt programs. Establish youth hunts at HCWA.

Pub 3.6 Conduct late summer volunteer "clean up day" to ready HCWA for the upcoming hunting season.

Pub 3.7 Maintain good relationship between Department staff, hunters, and volunteer organizations.

Pub 4.0 Goal – Wildlife Observation

Provide compatible wildlife observation opportunities to the public.

Tasks:

Pub 4.1 Designate specific wildlife viewing areas in a variety of habitats and locations that provide for undisturbed wildlife viewing, protect sensitive species, and do not cause a visual impact.

Pub 4.2 Develop interpretive signage for wildlife viewing trails.

Pub 5.0 Goal – Trail Use

Provide access to compatible trail use opportunities to the public for the purpose of wildlife-dependent activities.

Tasks:

Pub 5.1 Post designated trails and maintain trail system (see Figure 11).

Pub 5.2 Document condition of trails and habitat. If damage to biological resources is taking place, then those trail elements will be considered for removal or relocation.

Pub 5.3 Use barriers such as logs, boulders, and native vegetation (prickly or sticker plants) to control access to areas (e.g., areas closed to hunting or for research), prevent trail spreading or close user-defined trails.

Pub 5.4 Educate adjacent land owners that access is not permitted off of private lots. All access is through the parking area on Honey Springs Road.

Pub 6.0 Goal – Dog Training

Provide compatible hunting dog training opportunities to the public. Hunting dog training is a conservation tool in that hunters who use dogs to find and retrieve game result in less waste of game.

Tasks:

Pub 6.1 Continue to allow dog training.

Pub 6.2 Maintain areas for a variety of hunting dogs.

Pub 6.3 Restore one or more of the former stock ponds to provide aquatic dog training areas for retrievers. Work with the local hunting dog trainers to provide appropriately designed training areas to the extent practical.

Pub 6.4 Design and restore fields adjacent to ponds that are restored to be used as a field component for dog training.

Pub 7.0 Goal – Signage

Provide signage that clearly communicates regulations, safety warnings, expected code of conduct and interpretive messages to the public.

Tasks:

Pub 7.1 Prepare a plan for all signage used at HCWA that addresses sign maintenance, placement, and content.

Pub 7.2 Maintain signs at parking lots with wildlife area maps and regulations, and safety information, including:

a) General rules; no rifles or pistols; and wildlife and other hazard signs (mountain lions, rattlesnakes, poison oak, border patrol, etc.).

b) Entrance signs at HCWA should inform visitors that they are proceeding at their own risk.

Pub 7.3 Work with Caltrans to install signage on SR 94 to direct visitors to the entrance of HCWA.

Pub 7.4 Provide a large sign marking the HCWA entrance on Honey Springs Road.

Pub 7.5 Inspect and maintain signs annually.

Pub 7.6 Inventory existing boundary signage and fencing, and install new signs and fencing where necessary. Boundary signage should face both

directions to notify users of adjacent private property, and to notify neighbors of the wildlife area boundary.

Pub 7.7 Provide a sign board in the public parking lots that communicates a comprehensive display of public use opportunities at HCWA. This will include a map showing currently available public use areas.

Pub 7.8 Provide signs marking trails and dog training areas.

Pub 7.9 Provide signs marking areas that are closed for nesting, area maintenance, habitat restoration, emergency repairs, flood damage, safety, or other reasons.

Pub 7.10 Provide signs on trails indicating that hikers and mountain bikers are to yield to horseback riders, and hikers are to yield to mountain bikers.

Pub 8.0 Goal – Community Partnership

Continue to foster community partnership.

Tasks:

Pub 8.1 The Department will continue to communicate and coordinate with various community groups including hunters, equestrians, dog training groups and others for special events as well as volunteer opportunities;

Pub 8.2 Collaborate with outside groups in developing new program areas;

Pub 8.3 Coordinate with volunteers to protect wildlife resources and habitat during large work parties; and

Pub 8.4 All groups must coordinate through Department management before engaging in volunteer activities, and receive training and briefings by the Department.

Pub 8.5 Communicate with the Home Owners Association of Rancho Jamul Estates and other neighbors regarding adjacency issues.

Pub 9.0 Goal – Regulations

Support compatible wildlife-dependent public use through consistent regulations and coordination with other agencies.

Tasks:

Pub 9.1 Evaluate the hunting, angling, and wildlife viewing programs.

Pub 9.2 Evaluate HCWA regulations periodically to identify changes that are warranted to maintain consistency with the goals of this LMP and that reflect Department and Fish and Game Commission Policy.

Pub 9.3 Periodically review activities within HCWA for compatibility with the MSCP, specifically as updated monitoring and management requirements and information become available for MSCP participants.

Potential Environmental Impacts Associated with the Public Use Element

Compatible, wildlife-dependent public uses support the Department's mission in providing public access to HCWA. Potential impacts to public access are considered as well as impacts that can be caused by public uses. Potential direct and indirect impacts that could result from the public's use of HCWA include:

- Overuse of trails, open areas, or parking lots.
- Unauthorized use of closed areas.
- Conflicts among users.
- Accidents involving wildlife (e.g., snake bites), or visitor accidents.

These potential impacts will be avoided and/or minimized by:

- Managing visitation levels.
- Preventing unauthorized activities through regular observation of visitor activities.
- Promptly repairing damaged areas.
- Installing signs and/or display cases to educate and inform the public regarding rules and regulations governing the use of HCWA and access restrictions. Signs informing the public that they are entering HCWA at their own risk will be posted at all entrances.
- Regularly monitoring public use effects on ecosystems.

- Closing trails or modifying uses where use is determined to have, or potentially have, an adverse effect on sensitive biological or cultural resources.

D. CULTURAL RESOURCES ELEMENT

HCWA includes at least 13 cultural resources that may be significant under the CEQA for the California Register of Historical Resources (California Register) and 11 that remain unevaluated. The California Register is an authoritative guide to California's significant historical and archeological resources to be used by state and local agencies, private groups, and citizens in identifying the existing historical resources of the state, and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change. Resources included on the California Register are those that are:

- Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States.
- Associated with the lives of persons important to local, California or national history.
- Embodied with the distinctive characteristics of a type, period, region or method of construction or represent the work of a master or possesses high artistic values.
- Have yielded, or have the potential to yield, information important to the prehistory or history of the local area, California or the nation.

Typically, resources included on the California Register are 50 years old or greater. A resource less than 50 years old may be considered for listing in the California Register if it can be demonstrated that sufficient time has passed to understand its historical importance. California's statutes, regulations, and administrative policies regarding historic preservation and protection of cultural resources can be reviewed at http://www.ohp.parks.ca.gov/pages.

As noted earlier, Susan M. Hector authored an Archaeology Management Plan for HCWA in June 2002. Hector's specific recommendations are incorporated into the following goals and are summarized in Appendix A.

Opportunities

- Value. Preservation and protection of cultural resources are an opportunity that provides cultural, social, and environmental benefits.

- Informed Decisions. The Department's knowledge of the complete inventory of cultural resources within HCWA and their significance provides for informed planning and better decision making.

- Stewardship. Management of cultural resources is consistent with the CEQA and meets the Department's intent to provide long-term stewardship of cultural resources at HCWA. A stewardship program to monitor cultural resources can provide volunteer labor to the Department and build ownership in the community. A site stewardship program will engage the community in protecting the cultural resources of HCWA. The Department could contact the San Diego County Archaeological Society for their monitoring protocol or the California Native American Heritage Commission regarding training volunteers through their California Archaeological Site Stewardship Program.

- Volunteer Labor. Student investigations can provide volunteer labor to the Department. Research opportunities can be provided to college-level students through formal field school classes or independent studies conducted at HCWA in the fields of anthropology, archaeology, ethnohistory, ethnobotany, cultural geography, or cultural resources management.

- Education. HCWA has a diverse set of cultural resources. The prehistoric archaeological resources and historic homestead sites provide an ideal laboratory for the study of changing prehistoric subsistence and historic settlement patterns in southern California.

- Community Involvement. Involving the community in the cultural resources activities of HCWA provides an opportunity for public participation, stewardship, and education. Public outreach efforts provide an opportunity to gain information on the history and importance of cultural resources at HCWA. This can include oral history interviews or town hall meetings, in which information is both shared and elicited. The Native American community may be able to provide information on the cultural uses of the area and significant resources. This information provides an opportunity to interpret the Native American importance of the region and protect resources they deem significant.

- Native American Input. A Native American contact program was conducted in 2005 (Appendix E). Those persons identified by the Native American Heritage Commission could assist the Department in identifying significant resources that may have not been previously identified.

- Interpretation. Public education and interpretation of the cultural history of HCWA could include signs, displays, walking maps, or interpretive trails.

Constraints

- Staff and Funding. Constraints of managing cultural resources include limited availability of staff and funding to maintain data, oversee documentation generated by others, track resource conditions, implement treatment, maintain contact with interested parties, create interpretive materials, and conduct public outreach programs.

- Vandalism. Identifying cultural resources to the public makes them more vulnerable to vandalism.

Cul 1.0 Goal – Identify Cultural Resources

Identify all cultural resources that are significant or potentially significant to understanding the prehistory or history of HCWA and that meet the criteria for listing in the California Register.

Tasks:

Cul 1.1 Gather Data. Compile all of the inventories and investigations of cultural resources for HCWA that are on file with the Department. Create a working bibliography.

Cul 1.2 Conduct Search. Have a qualified cultural resources specialist conduct a records search at the South Coastal Information Center (SCIC). The SCIC is the regional cultural resources data repository for the California Historical Resources Information System, which includes the statewide Historical Resources Inventory database maintained by the California Office of Historic Preservation. This will provide the Department with the following:

a) A datasheet (National Archaeological Database record [or NADb]) for each investigation within HCWA that is on file with the SCIC.

b) A hard copy map (digital files may be requested) of the investigation boundaries within HCWA that are on file with the SCIC.

c) A record for each resource within HCWA that is on file with the SCIC.

d) A hard copy map (digital files may be requested) of the resource boundaries within HCWA that are on file with the SCIC.

e) A copy of each historic map that includes HCWA.

Cul 1.3 Maintain Data. Maintain and continue to update the data collected from the Department files and the records search.

Cul 1.4 Evaluate Resources. Have a qualified cultural resources specialist formally evaluate known cultural resources for the California Register.

Cul 1.5 Contact Native Americans. Contact the Native Americans identified in the 2005 contact program (Appendix E), and solicit information on resources that may not be previously identified or that they deem important.

a) Contact James Robertson about the sacred lands identified by the California Native American Heritage Commission.

Cul 1.6 Define Areas to Be Surveyed. Using the data acquired from the SCIC, define the areas that have not been surveyed. In addition, review the adequacy and age of prior surveys to determine if certain areas need to be resurveyed.

Cul 1.7 Inventory and Evaluate. Have a qualified cultural resources specialist conduct cultural resources inventories in areas to be surveyed and evaluate identified resources.

a) Begin by identifying programs and planned development within HCWA and conduct focused field surveys in those areas.

b) Avoid areas where resources are found.

c) Encourage non-destructive research by professional archaeologists.

d) Require publication and distribution of results.

e) Ensure proper curation of any materials collected, including notes and photographs.

Cul 1.8 Add New Data. Add new data to existing dataset.

Cul 2.0 Goal – Protect Cultural Resources

Protect all cultural resources that are significant or potentially significant to understanding the prehistory or history of HCWA and that meet the criteria for listing in the California Register.

Tasks:

Cul 2.1 Conduct Review. Conduct a cultural resources review before conducting any ground-disturbing activities. If the area has not been previously surveyed, have a professional cultural resources person conduct a survey.

Cul 2.2 Implement Treatments. Implement treatments using the Treatment Categories provided by Hector (2002). See Appendix A for those resources previously categorized.

a) Category 1 Treatment – Preserve in place. Do not introduce incompatible elements. Restoration and replacement of architectural features should be based on detailed and accurate representations of the original features, as substantiated by historical, physical, pictorial, or archaeological evidence. Do not introduce plant materials into the site areas that will undermine, damage, or modify the cultural resource (e.g., invasive vining plants, surface roots of certain trees). Active management for preservation will be needed, to include:

- Fencing
- Re-routing trails
- Stabilization and repair of historic structures and features, including providing covers for buildings or ruins
- Capping with non-cultural soils
- Annual monitoring

b) Category 2 Treatment – Preserve in place. Trails, staging areas, or other uses may be nearby if no direct access is provided to the resources. Treatments to avoid impacts to these resources may include:

- Avoidance through rerouting trails and activity areas
- Revegetation to hide and protect the resource
- Limited stabilization of historic features such as dump sites and small architectural sites
- Biennial monitoring

c) Category 3 Treatment – Preserve in place. Trails and other modern amenities may be nearby. This category includes resources used in interpretive programs and for research and study. Treatment may include:

- Avoidance of direct impacts
- Revegetation to hide or protect the resource
- Restoration or reconstruction of a historic building for interpretive use

d) Category 4 Treatment – These resources should be treated as follows:

- Ensure that proper documentation in terms of a site report or site record has been completed and submitted to the proper agencies and organizations (e.g., SCIC)
- If artifacts were collected, provide funds for curation at an appropriate facility

Cul 2.3 Retain Professional Assistance. Have a professional cultural resources person assist in assigning treatments to those not identified by Hector (2002).

Cul 2.4 Prioritize Activities. Prioritize the following activities identified by Hector (2002).

a) Control access to CA-SDI-7441.

b) Eliminate access to CA-SDI-9273, -9689, -14,439, and -14,443. Make no plans to develop or improve access to these locations.

c) Consider the effects to CA-SDI-16,270, -16,271, -16,272, and -16,273 when proposing revegetation programs. Any ground-disturbing activity at the site locations will cause adverse impacts to these sites.

d) Do not remove existing historic ranching materials that may remain from prior ranching activities, including wood corrals, loading pens, troughs, wire, and other historic materials. They represent a past lifestyle that formed the basis for settlement in this area. If there is a safety issue, removal of historic ranching materials should be done

under the supervision of a professional cultural resources person so that the materials can be documented.

Cul 2.5 Consult California Law. When activities may affect cultural resources, consult California's statutes, regulations, and administrative policies regarding historic preservation and protection of cultural resources (http://www.ohp.parks.ca.gov/pages/1069/files/10%20law%20and%20preservation.pdf).

Cul 2.6 Mitigate Impacts. Mitigate any potential adverse impacts to cultural resources through active management.

Cul 2.7 Protect during Planning. Protect cultural resources using the following methods identified by Hector (2002) during planning.

a) Avoidance

b) Fencing

- The placement of fence posts should be monitored by an archaeologist; in general, a split rail or lodge-pole fence keeps most people out of a sensitive area.

c) Capping with non-cultural soils

- Capping a site or a portion of a site where there is a trail or dirt road should be undertaken with the participation of an archaeologist. Considerations should include depth of the cap and trail safety issues; potential erosion of the soil or gravel cap; disturbance of the site during the capping process; and maintenance of the trail or road.

d) Revegetation of site area

- Revegetation to protect a site should not include any disturbance of the surface of the ground, even if the site has been an agricultural field.

e) Additional monitoring

- Testing and data recovery if the resource cannot be avoided.

Cul 2.8 Monitor Resources. Monitor cultural resources at the recommended intervals (Appendix A). A trained Department staff person or volunteer can accomplish this, with professional consultation as needed. If damage or impacts are noted, the measures noted in the next Treatment Category should be implemented.

Cul 2.9 Comply with Agreements. Comply with binding agreements made during the acquisition of property.

a) Archaeological Conservation Easement of 1983 – the Department is required to address sites CA-SDI-189, -7447, -7448, and -7449 in a management plan. In addition, the Department has to ensure that these sites are not disturbed and that no cattle grazing will occur in these areas. These sites should be protected under Category 1 Treatment.

b) Purchase agreement for Expansion Area 2 – the Department agreed to contact the Western Division of Archaeological Conservancy when the management plan is being developed.

The Archaeological Conservancy
5301 Central Avenue NE, Suite 1218
Albuquerque, NM, 87108-1517
505-266-1540

Cul 2.10 Implement Stewardship. Implement a stewardship program that trains users of HCWA to monitor the conditions of cultural resources. Site stewards will require mandatory training and ongoing monitoring. Youth service projects can be developed through this program.

Cul 3.0 Goal – Involve the Community

Involve the community in cultural resource activities at the Hollenbeck Canyon Wildlife Area.

Tasks:

Cul 3.1 Consult with Native Americans. Consultation refers to establishing a relationship (through periodical phone calls and letters) with the Native American community. This could include a presentation to Native American communities and an invitation for input and concerns. Contact information for those with potential interest in the activities of HCWA was provided by the Native American Heritage Commission (Appendix E).

Cul 3.2 Create Public Contact List. Create an interested parties or stakeholders list.

Cul 3.3 Implement Interpretive Plan. Create and implement an interpretive plan.

a) Without threatening the integrity of the cultural resource, prepare written material describing what is present.

b) Develop graphic materials and interpretive displays for the public.

c) Replicas of collected artifacts from CA-SDI-16,270 including a sandstone discoidal and a Cottonwood Triangular projectile point base could be displayed and explained.

d) Other interpretive displays could feature the history of ranching in San Diego.

Cul 3.4 Develop Outreach Programs. Develop public outreach programs for users and visitors.

a) Give presentations and tours.

Cul 3.5 Develop Education Materials. Develop educational materials that can be used in County of San Diego school curriculums.

Potential Environmental Impacts Associated with the Cultural Resources Element

Any ground-disturbing activities at HCWA may potentially affect historic or archaeological resources. Potential impacts would be avoided or reduced to less than significant by implementation of site-specific measures previously identified (Appendix A, confidential), and the following management actions.

- All cultural resource investigations at HCWA shall be conducted under the guidance of a qualified professional cultural resources person, as defined by the Secretary of Interior's Professional Qualifications Standards.

- All cultural resources investigations shall conclude with a written report, with one copy filed with the Department and one copy submitted to the South Coastal Information Center, who manages the Historical Resources Inventory database for San Diego County, under the direction of the California Office of Historic Preservation.

- Avoidance of archaeological sites or treatments to standing buildings and structures as defined in the Secretary of the Interior's Standards for the Treatment of Historic Properties shall be conducted to reduce impacts. Treatments include preservation, restoration, rehabilitation, or reconstruction.

- Cultural resources investigations and treatments shall be conducted in accordance with federal and State of California Regulations and Standards concerning cultural resources.

E. FACILITY MAINTENANCE ELEMENT

Facilities on HCWA include roads and trails; parking lots; access control structures such as fences, gates and barriers; signage; structures; and water features, such as wells, fire hydrants, wildlife drinkers, and a proposed artificial pond. Managing these facilities will require ongoing monitoring, prioritization based on budget and staffing, preventative maintenance, and as-needed repair. Primary goals of facility maintenance are to ensure site security and safety for staff and the public, and ensure resource protection.

Opportunities

- Conducting regular assessments and preventative maintenance will keep facilities in good condition thereby avoiding costly repairs in the future.

- Educating and engaging the community might result in volunteer-based stewardship, which can help deflect the costs and staffing constraints faced by the Department.

Constraints

- Limited funding for staffing, inspections, enforcement, operations, and maintenance is a constraint for long-term operations of HCWA. Funding for routine assessment and repair or replacement of trails, culverts, gates, fencing, and signs will be required. Routine inspections of HCWA are also required to ensure that no unsafe hazards or new conditions have occurred, including illegal dumping. An overview of the property's personnel and equipment requirements to implement management goals and objectives is necessary to establish the foundation for future application of management funding.

Fac 1.0 Goal – Facility Management

Manage structures and facilities to provide wildlife-dependent public use, while protecting sensitive resources (see also Public Use Element).

Tasks:

Fac 1.1: Roads and Trails. Manage the trails system by taking the following actions:

a) Restore closed trails. Identify trails to be closed and implement active restoration through decompaction, invasives removal, and when necessary, seeding or planting. Invasive species eradication efforts should continue for no less than 5 years.

b) Prevent erosion damage to trails by implementing BMPs as necessary.

c) Prohibit off-road illegal activities. Ensure that no illegal trails are formed by off-road activities by posting signs or installing barriers as needed.

Fac 1.2: Parking Lots. Maintain parking lots to support public use and safety, while avoiding/minimizing impacts on adjacent resources.

Fac 1.3: Fences, Gates, and Barriers. Manage fences, gates, barriers, and other structures to support wildlife movement, and to protect sensitive biological resources from impacts due to traffic and illegal public use. Remove any of these structures that impede management activities or Border Patrol Access (at the discretion of the Department).

Fac 1.4 Signage and Public Education. Remove, add, or update signs as necessary (see also Pub 7.0). Incorporate educational information as necessary.

Fac 1.5: Structures. Maintain the State Housing residence. After proper evaluation (i.e., bat surveys), as needed, demolish dilapidated structures (old Honey Springs Ranch buildings) to ensure public safety near these features.

Fac 1.6: Water Features. Maintain wells, fire hydrants, artificial ponds, and pipelines to support wildlife, restoration efforts, and fire management.

a) For each well, determine functionality, the depth to groundwater, and the pumping rate. In addition, conduct water quality analysis of the well water to determine if it is safe for people and wildlife to drink. Post a warning sign if non-potable.

b) Maintain functional wells regularly. Cover all non-functional wells to protect the public from accidents.

c) Maintain fire hydrants by lubricating and testing them every 6 months.

d) Following restoration of one or more of the former stock ponds near the old Honey Springs Ranch, maintain water level using water from the nearest existing well. Use native flora to provide cover for training exercises.

Potential Environmental Impacts Associated with the Facility Management Element

- Potential direct and/or indirect impacts may be associated with activities related to trail or parking lot maintenance, or sediment removal. However, all maintenance projects will be assessed for potential impacts prior to implementation, and all impacts are expected to be temporary. For example, noise and dust might be produced if heavy equipment is used, but if activities are carried out during the non-breeding season, no impacts to sensitive bird species would be expected. Additionally, any "take" of habitat would be mitigated through avoidance, revegetation, or the use of hand tools rather than mechanized equipment.

- Creation of a pond for dog training exercises at one of the former stock ponds within the property will not result in significant impacts. The former stock ponds occur in disturbed areas, and necessary piping to fill and maintain them (installed between a proposed pond and the nearest well) can all be located within existing dirt roads. At the location of the first pond that would be restored, the existing small earthen berm and pond surface may need improvement; however, these features coincide with existing non-native grassland and disturbed habitat. The earthen berm (dam) associated with this proposed dog training pond at HCWA would not be regulated by the Division of Safety of Dams (i.e., no jurisdiction over dams less than 25 feet in height with a storage capacity less than 50 acre-feet). Furthermore, there are no downstream structures that would be threatened by failure of the small berm associated with the proposed dog training pond. As restoration of the other former stock ponds is pursued, similar evaluation of the conditions and appropriate CEQA evaluation will be conducted.

F. SCIENTIFIC RESEARCH AND BIOLOGICAL MONITORING ELEMENT

This element provides goals and tasks that encourage scientific study, especially in relation to open space management. In addition, these goals encourage consistency with various monitoring and management efforts in San Diego County. Biologists are drawn to San Diego County, in part, because it is a "hotspot" of biodiversity. Numerous universities and colleges in the area

support research in conservation biology, land management, population genetics, metapopulation dynamics, systematics, etc. The scientific community's active role in regional conservation adds scientific rigor to the process of natural resources management. In addition, wildlife agencies, non-governmental organizations (NGOs), community groups and the public participate in activities relevant to this LMP, such as trail planning, educational outreach, and land stewardship. Coordinating with these groups will give the community a sense of ownership in HCWA and enable the Department to tap into this valuable resource.

Opportunities

- Coordinating with other management and monitoring protocols and guidelines will make management efforts at HCWA more effective. Coordination among land managers provides opportunities to use and build upon pertinent research with a relevant regional perspective. This type of coordination also allows land managers to compare data between years and among other preserved areas in the County MSCP plan area. This is an important component of the adaptive management strategy.

- Encouraging scientific, conservation-related research will benefit land managers by providing information that will help more efficiently manage, monitor, and protect sensitive biological resources, and will add scientific rigor to management strategies.

Constraints

- Collecting, analyzing, and reporting the results of scientific research can take years, which may be beyond the immediate management timeframe.

- The priorities of researchers are not always the same as those of land managers. Therefore, it may be difficult to encourage research projects that are directly relevant to RJER management.

Mon 1.0 Goal – Scientific Research

Provide opportunities for scientific research that will support the adaptive management strategy and provide useful biological information to land managers.

Tasks:

Mon 1.1: Identify data gaps related to management, monitoring, and species or ecosystem-level biology and design; or encourage research projects on these topics.

Mon 1.2: Identify experimental design opportunities to be incorporated into habitat and species management, restoration, and/or reintroduction projects on the wildlife area.

Mon 1.3: Facilitate access to students and researchers from local universities and colleges. Encourage research that supports the goals of this LMP.

Mon 2.0 Goal – Consistency with Appropriate Management and Monitoring Protocols

When defining the details of the methodology for tasks in the Biological Element goal, use relevant, established protocols.

Tasks:

Mon 2.1: Use the following protocols as appropriate:

a) State and federally listed species.

- Thornmint – utilize Department protocols for monitoring and population assessment.
- USFWS focused species survey protocols for Quino checkerspot butterfly, arroyo toad, and California gnatcatcher.
- A management and monitoring plan for Quino checkerspot butterfly (*Euphydryas editha quino*) and its habitats in San Diego County (Longcore et al. 2003).
- Survey and monitoring report for the arroyo toad conducted in the MSCP study area (USGS in progress).

b) MSCP covered species.

- Draft MSCP Framework Management Plan (County of San Diego 2001, see also Ogden 1996; CBI 2001a and 2001b)

c) Vegetation Communities.

- California Native Plant Society - Rapid Assessment Protocol (CNPS 2005). If used, the vegetation communities described in this LMP will first have to be crosswalked to the classification system used in Sawyer and Keeler-Wolf (1995).

- MSCP annual report. Includes information about post-fire habitat recovery monitoring conducted for the MSCP; photo points established near Rancho Jamul (County of San Diego 2006).

d) Sensitive Habitats.

- Final report for Creating an Index of Biological Integrity for Coastal Sage Scrub: A tool for habitat quality assessment and monitoring (Diffendorfer et al. 2004).
- Adaptive management for southern California grasslands (Chadden et al. 2004).

e) Rare Plants.

- Survey methods should be consistent with those used for the baseline biodiversity study (USGS 2004a).
- Although no rare plant monitoring protocol is available for the South County MSCP, see MSCP rare plant monitoring: field monitoring methods (City of San Diego 2005), Department HCPB protocols, and USFWS protocols.

f) Sensitive Wildlife.

- Refer to habitat surveys and monitoring reports on bats and southwestern pond turtle throughout the San Diego MSCP study area (includes management recommendations) (County of San Diego n.d.).

g) Dove and Quail

- Annual censusing should follow national and California protocols.

h) General Surveys.

- General wildlife surveys and non-native species surveys should be consistent with methods used in USGS (2004a).

i) Wildlife movement.

- *Wildcat Canyon Road Enhancement Project Before-After-Control-Impact Study*. Final preconstruction report (EDAW 2005).

- Wildlife Corridor Monitoring Study, prepared for the Multiple Species Conservation Program (CBI 2003b).

j) Adaptive management.

- Designing monitoring programs in an adaptive management context for regional multiple species conservation plans (USGS 2004b).

Potential Environmental Impacts Associated with the Scientific Research and Biological Monitoring Element

No impacts are expected from the Scientific Research and Biological Monitoring Element. All research projects will be evaluated for potential impacts, which will be avoided, minimized, or mitigated to a less than significant level. All researchers will be properly permitted and qualified to conduct their relevant monitoring programs.

G. FIRE MANAGEMENT ELEMENT

In 1994, the California State Board of Forestry and the California Fish and Game Commission adopted an interim *Joint Policy on Pre, During, and Post-fire Activities and Wildlife Habitat*. This joint policy describes multiple measures that both CDF and the Department should undertake to protect lives and property with consideration of natural resources. These measures would be implemented before, during, and after fires. Additional state, local, and federal policies and agreements that apply to fire management activities on HCWA include the following:

- California Fire Plan: A Framework for Minimizing Costs and Losses from Wildland Fires (CDF 1996).
- Memorandum of Understanding and Operating Agreement between the California Department of Forestry and the California Department of Fish and Game regarding the Department's Lands in San Diego County (2002).
- Memorandum of Understanding between the Fish and Wildlife Service of the United States Department of Interior, the California Department of Fish and Game, the California Department of Forestry [and Fire Protection], the San Diego County Fire Chief's Association, and the Fire District's Association of San Diego County, signed on

February 26, 1997 (USFWS 1997a). Guidance is applicable to defensible space, fuelbreaks, and greenbelts within 100 feet of structures and 30 feet of roads.

- Biological Opinion on Fish and Wildlife Service Participation in a Memorandum of Understanding with the San Diego County Fire Chief's Association Addressing Flammable Vegetation Abatement in San Diego County (1-6-97-FS-19), dated February 26, 1997 (USFWS 1997b). This document authorizes take and provides terms and conditions for the actions described in the above Memorandum of Understanding.

Opportunities

- Continuing coordination among fire agencies (e.g., CDF with federal and local fire departments) and with adjacent landowners and communities can increase the likelihood of sustaining long-term ecosystem health and processes in fire-adapted lands.

Constraints

- Private land to the north and south of HCWA is likely to continue to develop, increasing the risk of ignition from human sources.
- Although wildfires have not affected HCWA in many years, a future large-scale fire could have a negative impact on the biological resources within the property. Although many habitat types, most notably coastal sage scrub and chaparral, have adapted to periodic wild fires, an intense and large-scale fire can have a detrimental effect on the natural communities and associated plants and animals. For example,
  - Fires commonly increase erosion by removing vegetation that holds the soil together with its root system.
  - Particularly large or frequent fires often lead to a greater vulnerability to invasion by non-native plant species and a potential for type conversion of scrub vegetation to weedy grass and forb habitat (Oberbauer 2003).
  - Burned riparian areas along stream courses may provide an avenue for the introduction and spread of non-native giant reed and salt cedar, which could potentially displace native willows and other riparian species.

Overall, the goals for fire management are to protect lives and property, and to maintain natural ecosystems within HCWA.

Fire 1.0 Goal – Pre-fire Fire Management

Develop and implement pre-fire vegetation access, treatments, and inter-agency coordination to sustain long-term ecosystem health and processes and minimize impacts to facilities and biological and cultural resources within HCWA.

Tasks:

Fire 1.1 Meet biennially with CDF representatives to discuss fire-related issues relevant to HCWA, including vegetation management, recent fires in the property, current contact information, areas of high fire hazard, sensitive areas to avoid in firefighting activities, priority suppression areas (especially cultural and biological resources), potential access and staging areas, availability of fire-fighting personnel, procedures, and other relevant factors. Areas of concern should be identified on a map that is updated as needed.

Fire 1.2 Develop a wildfire management plan (WFMP) to address ongoing fire management needs for both wildlife habitat and defensible space. Review WFMP every 5 years and update if needed. This WFMP should be consistent with the brush management Memorandum of Understanding (UWTF 1997), and should include the following:

a) Assess road conditions and maintain road surfaces and width to allow access by wildland firefighting engines.

b) Mow grasses and thin or reduce vegetation (fuel management zones) in areas adjacent to public vehicle access to minimize risks of ignition (e.g., parking lots, access to any proposed dog training ponds, and the restricted access road to the private in-holding within HCWA).

c) Address coordination needs with Caltrans and the Department for fuel management along SR 94, Honey Springs Road, and Rancho Jamul Drive.

d) Incorporate plans for cooperative management of habitat through prescribed burns at specific locations (e.g., hunting areas, or habitat restoration efforts).

e) Incorporate methods for fire response that would consider effects on natural and cultural resources within HCWA, i.e., identify fire

suppression tactics that could have adverse long-term effects on ecosystems or cultural resources (e.g., use of retardant), and those tactics should be avoided or modified whenever feasible.

Fire 1.3 Participate in preparing Community Wildfire Protection Plans for areas that encompass HCWA. Work with any Fire Safe Councils established in the area, or absent such a council, work with adjacent homeowners regarding establishment and inspection of defensible space.

Fire 1.4 Train a Department biologist to serve the role of resource specialist or agency representative through the Incident Command System.

Fire 1.5 Review and comment on adjacent development proposals to ensure these projects incorporate adequate space so that HCWA lands are least impacted by future fire risks.

Fire 2.0 Goal – Fire Suppression

Conduct wildfire suppression activities in ways that sustain long-term ecosystem health and processes, and minimize impacts to facilities and biological and cultural resources within HCWA.

Tasks:

Fire 2.1 Establish staging areas on roads and already-disturbed areas.

Fire 2.2 Prohibit bulldozer use within 100 feet of stream centers, in riparian areas. Avoid dropping retardant within 200 feet of any riparian areas.

Fire 2.3 Avoid bulldozer use within 100 feet of cultural resource sites, populations of listed plant species, and occupied Quino checkerspot butterfly habitat.

Fire 2.4 Coordinate fire suppression activities and cooperate with CDF and local fire districts (including the National Wildlife Refuge, BLM, and rural fire departments.

Fire 3.0 Goal – Post-fire Fire Management

Conduct post-fire activities and erosion control to enhance natural plant recovery and succession, restore long-term ecosystem health and processes, and minimize impacts to facilities and biological and cultural resources within HCWA.

Tasks:

Fire 3.1 After wildfire suppression activities, restore roads, fences, trails, and landscape contours to pre-fire conditions and mitigate for any damage from mechanical firefighting equipment. Remediation needs should be identified immediately so that fire crews can complete the work before demobilizing.

Fire 3.2 Complete emergency watershed work as soon as possible and before the first heavy rainfall.

Fire 3.3 Revegetate only in critical areas that are at risk for conversion to non-native habitats, or to reduce invasion of non-native, exotic plant species.

Fire 3.4 Repair culverts and stream crossings and restore drainage and road surfaces in areas damaged by firefighting activities and post-fire storm runoff.

Fire 3.5 Monitor invasion of weeds in areas disturbed by fire activities and the effectiveness of erosion control methods, and take corrective actions as needed.

Potential Environmental Impacts Associated with the Fire Element

No significant direct or indirect impacts are expected from activities related to the Fire Management Element. All activities will be conducted by qualified Department and fire agency staff.

Potential adverse impacts will be avoided and/or minimized by:

- Development, review, and approval of site-specific fire management plans for all fuel manipulation activities.
- As needed, fuel management via mechanical clearing or burning shall be conducted outside of typical breeding periods for all sensitive animal species to avoid adverse impacts on reproduction. Fuel management activities will be conducted in a manner that will not contribute to fragmentation of habitat linkages.
- Following fire, all areas burned will be monitored to assess invasion by non-native plant species. Weed-dominated habitats and non-native grasslands dry out earlier than native

perennial species and are easily ignited. Remedial seeding with native plants or other measures will be conducted as needed.

- Areas damaged from fire suppression activities will be promptly repaired.

H. MANAGEMENT COORDINATION ELEMENT

Management coordination includes communicating with others that are involved with conservation, management, and restoration in the region; coordinating management and monitoring efforts with policies, goals, and guidelines of relevant regional plans; and standardizing data management to streamline the process of reporting and updating this LMP in the future.

Opportunities

- Coordinating with other agencies, NGOs (e.g., San Diego County Wildlife Federation, Endangered Habitats League, and Jamul Trails Council), and scientists will provide an opportunity to share resources, knowledge, and data gained from adaptive management efforts.

- Coordination will help promote a broader, more regional perspective when assessing threats to resources and setting management priorities.

- Standardizing collection, management, and dissemination of management related data will facilitate data analysis, tracking, and communication.

Constraints

- It may be difficult for Department staff or personnel from other agencies or groups to find the time to analyze and discuss conservation efforts on a regular basis.

- There may be some differences in philosophy among interested parties regarding conservation and management strategies.

Crd 1.0 Goal – Plan Revisions

Collect and manage HCWA monitoring data in a manner that facilitates MSCP reporting and future LMP revisions.

Tasks:

Crd 1.1: Standardize methods of data collection and data management.

a) Develop a protocol for data collection and data management, including geographic information system (GIS) data, to ensure consistency even if there is a personnel change in the Department.

b) Ensure that the protocol is consistent with the County's comprehensive MSCP database and reporting procedures.

Crd 1.2: Annual or semiannual status reports. Prepare regular status reports, and include such information as goals and tasks implemented, management strategies tested and lessons learned, updates to GIS layers (boundaries, trails, fences, species points, vegetation communities, etc.), a description of projects and status, and status of game and sensitive species.

Crd 1.3: Revise LMP every 5 years. Following the appropriate process, major revisions to this LMP should include revised existing conditions information, policy changes, appropriate CEQA documentation, and changes to goals and tasks based on the best available data and lessons learned from the previous 5 years.

Crd 2.0 Goal – Regional Conservation Coordination

Coordinate with agencies, NGOs, the scientific community, and other interested parties involved with conservation in the region, and ensure consistency with regional planning efforts.

Tasks:

Crd 2.1: Coordinate with other entities, as appropriate. Discuss conservation goals; threats; methodology for management, monitoring, restoration, and reintroduction; results of management tasks and scientific research; and potential future projects.

a) *Agencies*: Federal (USFWS, BLM, USFS, and USGS), state (other Department land managers, California Resources Agency, and California State Parks), and county (Departments of Parks and Recreation, and Planning and Land Use).

b) *NGOs*: For example, the San Diego County Wildlife Federation, Endangered Habitats League, and Jamul Trails Council.

c) *The scientific community* and other land managers using adaptive management strategies.

d) Meet with the public to provide them with an opportunity to ask questions and express concerns.

Crd 2.2: Coordinate with relevant regional plans, to ensure that management actions and reporting for HCWA are consistent. Some examples include:

a) *South County MSCP subarea plan*. Ensure consistency with monitoring protocols, monitoring efforts conducted by the County of San Diego, data submittal for the MSCP annual report, and MSCP goals. Seek opportunities for funding, monitoring assistance, and educational outreach.

b) *County of San Diego General Plan* and *Jamul/Dulzura Subregional Plan.* Ensure that there is no conflict between these plans and the goals of this LMP. Review and comment on proposed projects that may affect HCWA.

c) *County trails program and Jamul-Dulzura Community Trail and Pathway Plan*. Ensure that these planning efforts are consistent with the goals of the LMP. Assist in trails plan implementation by trail placement as appropriate.

d) *Otay River WMP and SAMP (in progress).* Ensure that planning goals for the Otay River Watershed Management Plan (WMP) and Special Area Management Plan (SAMP) are consistent with goals of this LMP. Accommodate watershed goals and policies as appropriate.

Potential Environmental Impacts Associated with the Management Coordination Element

No impacts to resources are expected from the Management Coordination Element.